

296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990). The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. See M.P.E.P. § 2142. To establish a *prima facie* case of obviousness, the Examiner must show, *inter alia*, that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. See M.P.E.P. § 2143. Applicants respectfully submit that these criteria for obviousness are not met here.

Claim 20 recites a “liquid crystal display” with “an optically biaxial retardation film associated with a plurality of different refraction indices and provided at least between one of the first polarizer and the second polarizer and the liquid crystal in order to compensate for a dependence of optical characteristics including a transmission on a viewing angle and a contrast on the viewing angle.”

In support of the rejection, the Examiner states that “‘775 (Sarma) teaches the claimed invention except for the optical retardation layer is biaxial retardation layer with different refractive indices such that  $n_z$  applies along an axis of retardation layer which is essentially parallel to the normal line of the liquid crystal cell. However, ‘568 (Abileah et al.) teaches such a configuration for the benefit of reduced inversion and improved contrast ratios.”

In contrast to the Examiner’s contention, the teachings of Sarma and Abileah et al. do not disclose the liquid crystal display as recited in claim 20. Abileah et al. teach arrangement of a retardation layer on opposite sides of the liquid crystal cell. (Col. 1, lines 10-15). In particular, Abileah et al. provide, at the opposite sides of the liquid crystal cell, a first **uniaxial** retardation layer having optical axis R1 and a second **uniaxial** retardation layer having optical axis R2, and intersecting axis R1. (Col. 7, lines 16-26). From Figure 11a of Abileah et al., it is clearly shown that the two retardation layers arranged on different sides of the liquid crystal cell each have **only one uniaxial orientation**. Abileah et al. do not suggest the use of one biaxial layer as recited in claim 20 of the present invention.

Even if the use of a biaxial layer with a liquid crystal cell is assumed to be found in Abileah et al., which is not the case, there still is no suggestion of using this biaxial layer in a liquid crystal cell which is subdivided into pixels, since Abileah et al. teach orienting the retardation layers to the liquid crystal cell between the layers. (Figure 11b). However, in a liquid crystal cell according to claim 20 of the present invention, the biaxial retardation film is applied in such a manner, utilizing optical symmetry, that, in each case, a compensation is

obtained for the different liquid-crystal orientations in the subpixels.

Furthermore, Sarma does not suggest compensation of a dependence of optical characteristics as recited in claim 20, since Sarma provides different capacitances for the individual subpixels to improve gray control. (Abstract). For these reasons, the combination of Sarma and Abileah et al. does not render the subject matter of claim 20 obvious, and claim 20 is allowable over the applied references.

Claims 21-38, which depend from allowable claim 20, are similarly allowable by virtue of their dependence on allowable claim 20.

For at least the reasons discussed above, withdrawal of the rejection under 35 U.S.C. § 103(a) with respect to claims 20-38 is hereby respectfully requested.

### **III. CONCLUSION**


Attached hereto is a marked-up version of the changes made to the claims by the current Amendment. The attached page is captioned "**Version with Markings to Show Changes Made.**"

In light of the foregoing, Applicants respectfully submit that all pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

Please amend claim 20 as follows:

- 20. (Amended) A liquid crystal display, comprising:
- a plurality of pixels subdivided into a plurality of subpixels;
  - a liquid crystal cell having a top surface and a bottom surface, and including:
    - a first substrate provided with a transparent electrode,
    - a second substrate provided with another transparent electrode, and
    - a liquid crystal including liquid crystal molecules and arranged between the first substrate and the second substrate, wherein the liquid crystal exhibits a different orientation for each one of the plurality of subpixels;
  - a first polarizer arranged on the top surface of the liquid crystal cell;
  - a second polarizer arranged on the bottom surface of the liquid crystal cell; and
  - an optically biaxial retardation film associated with a plurality of different [retraction] refraction indices and provided at least between one of the first polarizer and the second polarizer and the liquid crystal in order to compensate for a dependence of optical characteristics including a transmission on a viewing angle and a contrast on the viewing angle, wherein the plurality of different refraction [indexes]indices include[s] at least:
    - a first [retraction] refraction index  $n_z$  occurring along an axis that is essentially parallel to a normal to the liquid crystal cell in the retardation film, and
    - a second refraction index  $n_e$  occurring along an axis that is essentially perpendicular to an orientation of the liquid crystal molecules with respect to a corresponding adjacent one of the first substrate and the second substrate in the retardation film.--.